

Sustainable Materials Management – Solid Waste Diversion

Environment, Energy & Sustainability
Symposium & Exhibition

Edmund D. Miller

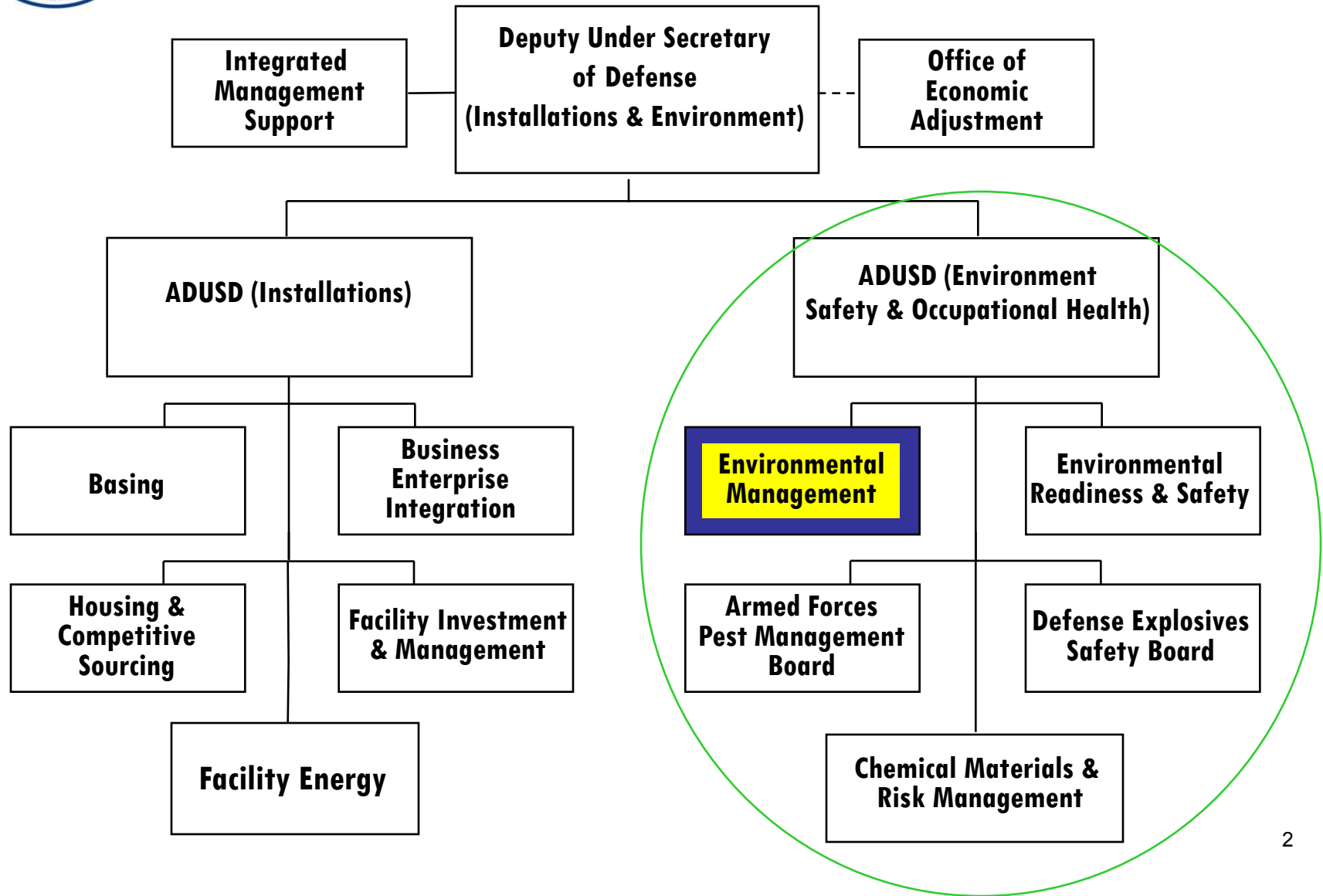
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ODUSD(I&E) Organizational Chart





OSD Solid Waste/Recycling Program

- I. DoD Instruction 4715.4, "Pollution Prevention," June 18, 1996
 - A. Established environmental hierarchy for managing wastes:
 - 1. Source reduction/elimination
 - 2. Reuse/recycle
 - 3. Treatment
 - 4. Disposal
 - B. Required establishment of cost-effective waste prevention and recycling programs to reduce non-hazardous solid waste



OSD Solid Waste/Recycling Program

- C. Defined recyclable materials to include paper, newspaper, cardboard, plastic, metal cans, glass, used oil, batteries, and tires.
- D. Defined “Excluded Materials” from recycling to include precious metals, hazardous waste, fuels, material required to be demilitarized or mutilated, scrap from demilitarization, Munitions List items, and Commerce Control items.



OSD Solid Waste/Recycling Program

- II. Executive Order 13423, “Strengthening Federal Environmental, Energy, and Transportation Management,” January 24, 2007
 - A. Establish solid waste diversion goals to be achieved by 2010
 - B. Maintain waste prevention and recycling programs in most cost-effective manner
 - C. DUSD(I&E) memo dated February 1, 2008 established goals and new integrated solid waste management policy



OSD Program Oversight

I. Solid Waste Metrics

A. ADUSD(ESOH) Memo dated 10/12/04

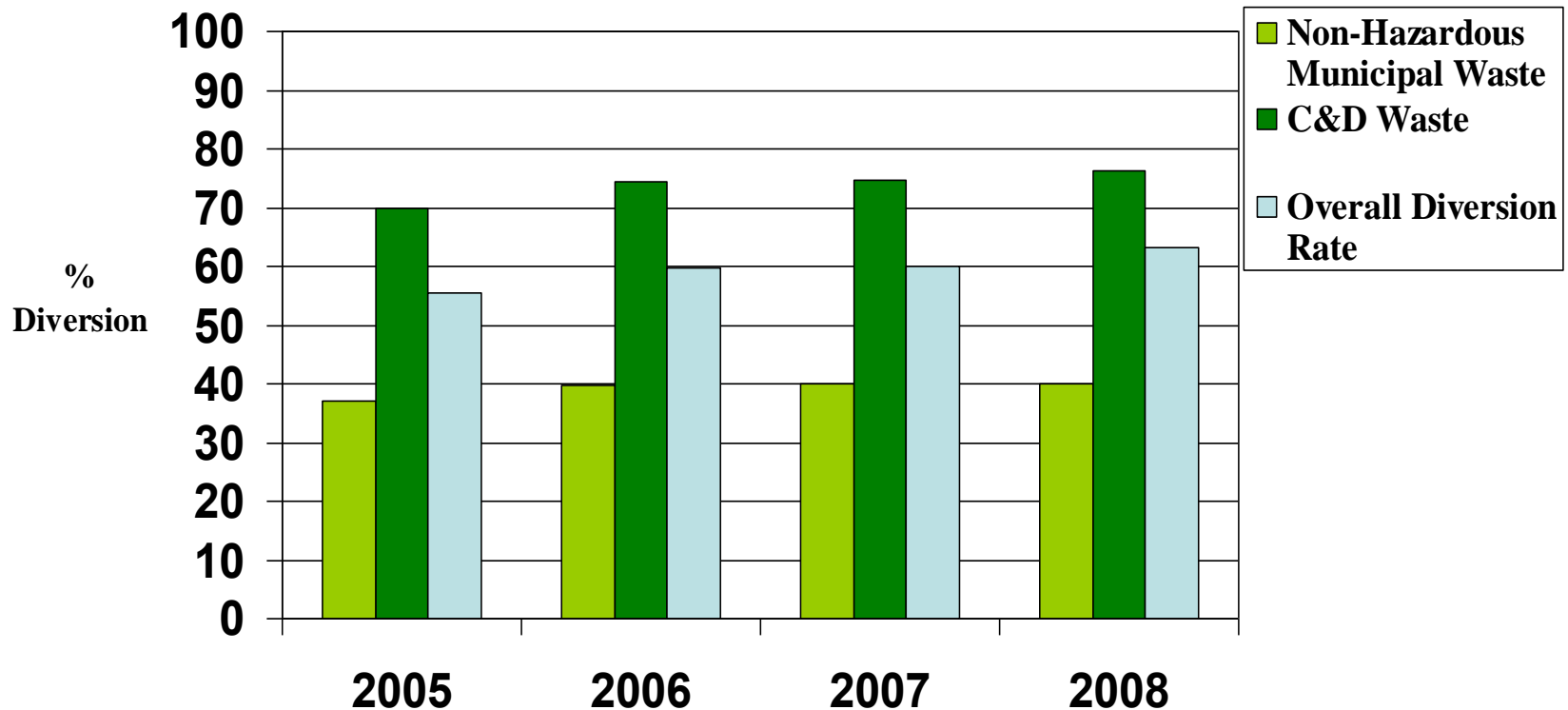
1. Per capita generation non-hazardous solid waste
2. Diversion rate of non-hazardous solid waste with and without construction & demolition (C&D) debris
3. Economic benefit
4. Goal – continuous improvement

B. E.O. 13423 (2007)

1. Specific diversion goals by 2010
2. 2008 DoD Integrated Solid Waste Management Policy established 40% non-hazardous solid waste and 50% for C&D debris



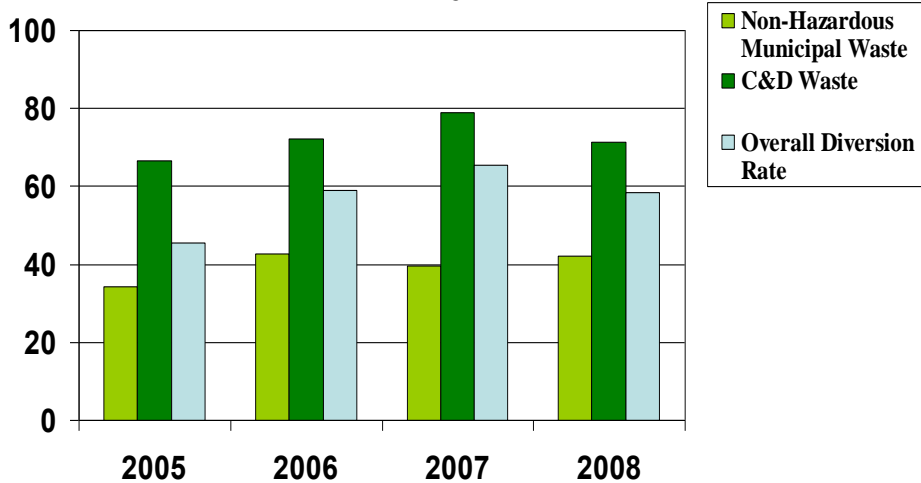
DoD Solid Waste Diversion Rate



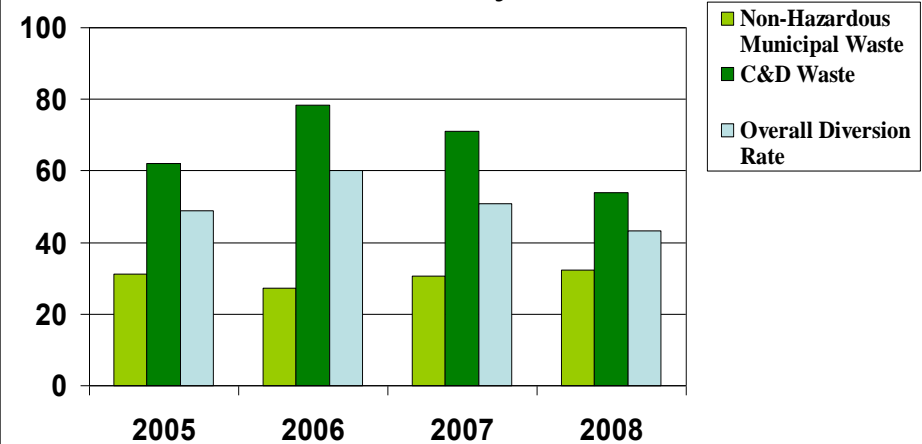


Solid Waste Diversion Rates (%)

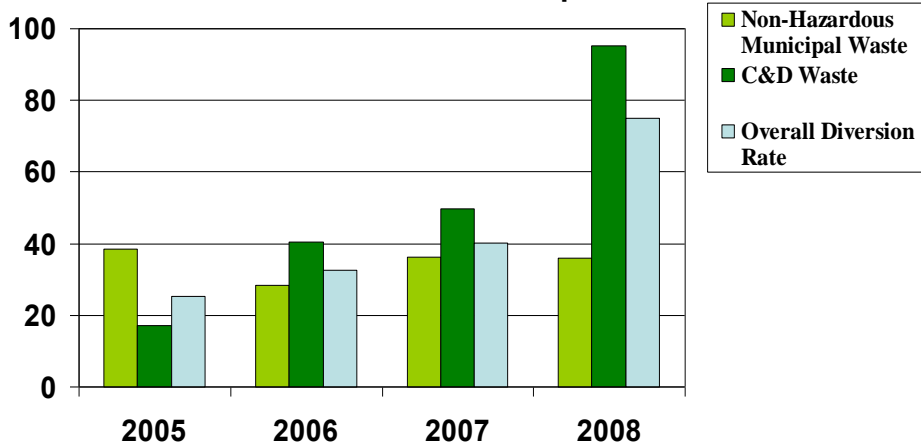
Army



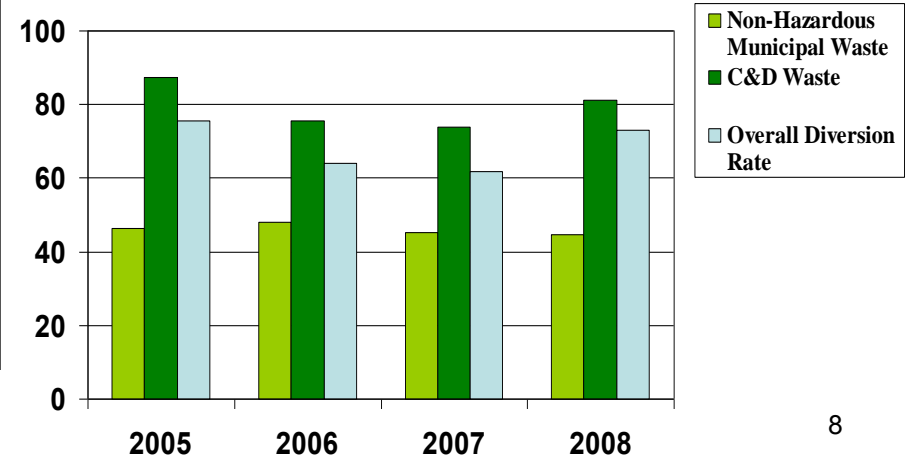
Navy



Marine Corps



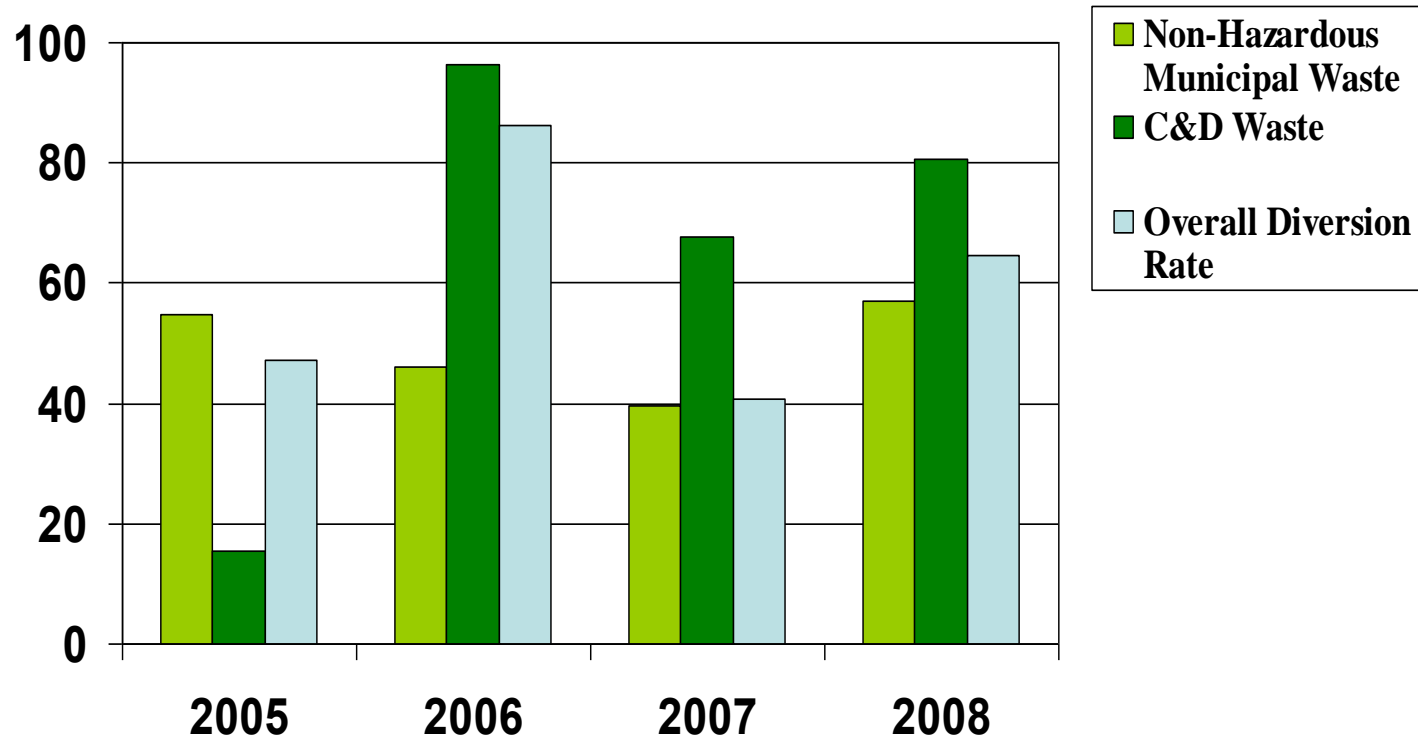
Air Force





Solid Waste Diversion Rates (%)

Defense Logistics Agency





DoD Integrated Solid Waste Management (ISWM) Policy

Background

- I. What makes recycling programs successful?
- II. Business case analysis of 10 successful DoD recycling programs
 - A. Had 1 or more commodities with high return which was applied to other recyclables
 - B. Performed direct sales and aware of the markets
 - C. Their diversions were above the DoD goals
 - D. Recognized avoided costs



What is ISWM?

Definition

A comprehensive approach to managing non-hazardous solid waste that encompasses waste prevention, recycling, composting, and disposal programs.



What is ISWM?

- I. Cost effective, energy efficient, and least polluting
- II. Requires upper management support
- III. Optimizes reduction of the volume of solid waste disposed and overall cost of solid waste management
- IV. Understanding of waste streams
- V. Knowledge of market opportunities



ISWM Hierarchy Approach

- I. Source reduction
- II. Reuse
- III. Donation
- IV. Recycling
- V. Composting/Mulching
- VI. Incineration or Volume reduction with Energy Recovery
- VII. Other forms of volume reduction
- VIII. Landfilling



Guidelines for Implementing ISWM

- I. Focus on:
 - A. Reducing waste generation
 - B. Maximizing diversion from landfill
 - C. Expanding and improving recycling program
- II. Periodic overall program evaluations
- III. Economic Analysis/Market Research

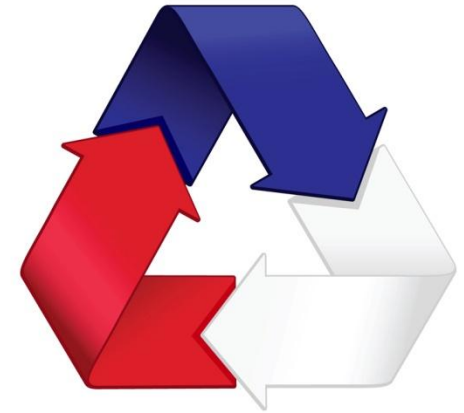


Summary

- I. ISWM implements solid waste and recycling requirements in a sustainable and cost-effective manner
- II. ISWM requires an analysis and decision process to be effective
- III. Requires installation support



Questions ?



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